Traumatic Brain Injury Evaluation Guidance

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Introduction

This document is intended to provide school teams guidance when planning for student needs, considering referrals for evaluations, and completing evaluations/re-evaluations for educational disabilities. Disability definitions and required evaluation procedures and can be found individually on the Tennessee Department of Education website (here).[1]

Every educational disability has a state definition, found in the TN Board of Education Rules and Regulations Chapter 0520-01-09,[2] and a federal definition included in the Individuals with Disabilities Education Act (IDEA). While states are allowed to further operationally define and establish criteria for disability categories, states are responsible to meet the needs of students based on IDEA's definition. Both definitions are provided for comparison and to ensure teams are aware of federal regulations.

The student must be evaluated in accordance with IDEA Part B regulations, and such an evaluation must consider the student's individual needs, must be conducted by a multidisciplinary team with at least one teacher or other specialist with knowledge in the area of suspected disability, and must not rely upon a single procedure as the sole criterion for determining the existence of a disability. Both nonacademic and academic interests must comprise a multidisciplinary team determination, and while Tennessee criteria is used, the team possess the ultimate authority to make determinations.[3]

IDEA 2004

Per 34 C.F.R. §300.8(c)(12), traumatic brain injury means *"an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or both, that adversely affects a child's educational performance. Traumatic brain injury applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; problem-solving; sensory; perceptual; and motor abilities; psychosocial behavior; physical functions; information processing; and speech. Traumatic brain injury does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma."*

Section I: Tennessee Definition

Tennessee Definition of Traumatic Brain Injury

Traumatic brain injury (TBI) means an acquired injury to the brain caused by an external physical force, resulting in total or partial functional disability or psychosocial impairment, or

[1] http://www.tn.gov/education/article/special-education-evaluation-eligibility

[2] http://share.tn.gov/sos/rules/0520/0520-01/0520-01-09.20140331.pdf

[3] Office of Special Education Programming Letter to Pawlisch, 24 IDELR 959

both, that adversely affects a child's educational performance. The term applies to open or closed head injuries resulting in impairments in one or more areas, such as cognition; language; memory; attention; reasoning; abstract thinking; judgment; problem-solving; sensory, perceptual, and motor abilities; psychosocial behavior; physical functions; information processing; and speech. The term does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma.

Traumatic brain injury may include all of the following:

(1) An insult to the brain caused by an external force that may produce a diminished or altered state of consciousness; and

(2) The insult to the brain induces a partial or total functional disability and results in one or more of the following:

(a) Physical impairments such as, but not limited to:

1. Speech, vision, hearing, and other sensory impairments;
2. Headaches;
3. Fatigue;
4. Lack of coordination;
5. Spasticity of muscles;
6. Paralysis of one or both sides; and
7. Seizure disorder.

(b) Cognitive impairments such as, but not limited to:

1. Attention or concentration;
2. Ability to initiate, organize, or complete tasks;
3. Ability to sequence, generalize, or plan;
4. Flexibility in thinking, reasoning or problem solving;
5. Abstract thinking;
6. Judgment or perception;
7. Long-term or short term memory, including confabulation;
8. Ability to acquire or retain new information; and
9. Ability to process information/processing speed.

(c) Psychosocial impairments such as, but not limited to:

1. Impaired ability to perceive, evaluate, or use social cues or context appropriately that affect peer or adult relationships;
2. Impaired ability to cope with over-stimulation environments and low frustration tolerance;
3. Mood swings or emotional lability;
4. Impaired ability to establish or maintain self-esteem;
5. Lack of awareness of deficits affecting performance;

6. Difficulties with emotional adjustment to injury (anxiety, depression, anger, withdrawal, egocentricity, or dependence);
7. Impaired ability to demonstrate age-appropriate behavior;
8. Difficulty in relating to others;
9. Impaired self-control (verbal or physical aggression, impulsivity);
10. Inappropriate sexual behavior or disinhibition;
11. Restlessness, limited motivation and initiation; and
12. Intensification of pre-existing maladaptive behaviors or disabilities.

The term does not apply to brain injuries that are congenital or degenerative, or to brain injuries induced by birth trauma.

What does this mean?

As defined by IDEA and the Tennessee definition, a TBI is an *acquired injury* to the brain caused by an *external physical force*. The external force may cause an open head injury (i.e., injury to the head that penetrates the skin and skull) or a closed head injury (i.e., injury does not penetrate the skin and skull but still causes brain injury such as a concussion). Examples of injury causes may include: blows, bumps, or jolts to the head resulting from a motor vehicle accident, fall, assault, sports injury, gunshot wound, or stabbing. However, not all blows to the head result in brain injury.[4] The definition does not include brain injuries which are *congenital* (i.e., present from birth) or *degenerative.* A TBI may result in various impairments, including physical, cognitive, and psychosocial impairments. Common symptoms associated with each area are listed in the definition. Associated impairments that occur as a result of the TBI will differ for each person depending on the areas of the brain injured, the severity of the injury, and how widespread it is. For additional information regarding concussions, see the Tennessee Department of Health's Return to Learn/Return to Play: Concussion Management Guidelines.

Physical Impairments

The physical problems that can result from a TBI are varied. However, school teams should be aware of potential health problems and physical needs that may impact the student in the educational environment. Physical symptoms may be present during the school day, or a student may experience decreased stamina or fatigue due to disruptions in sleep or a combination of factors.[5][6]

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[4] Centers for Disease Control and Prevention (2017).Traumatic Brain Injury & Concussion: Get the Facts. Retrieved July 7, 2017 from: https://www.cdc.gov/traumaticbraininjury/get_the_facts.html

[5] Centers for Disease Control and Prevention (2017).Traumatic Brain Injury & Concussion: Potential Effects. Retrieved: July 7, 2017 from https://www.cdc.gov/traumaticbraininjury/outcomes.html

[6] Centers for Disease Control and Prevention (2017).Traumatic Brain Injury & Concussion: Signed and Symptoms. Retrieved July 7, 2017 from: https://www.cdc.gov/traumaticbraininjury/symptoms.html

Cognitive Impairments

Cognitive impairments generally refer to the deficits or impairments associated with thinking, reasoning, memory, organizing one's thoughts, and processing information. The degree and severity of impairments may change with rehabilitative treatments. However, it is important to remember that delays can be lifelong challenges. [7]

Psychosocial Impairments

Psychosocial impairments refer to challenges associated with relationship building, social skills, and social interactions. Impairments listed may be the results of changes in emotional regulation, communication difficulties, behavioral changes, and difficulties adjusting to expectations.

Adversely Affects a Child's Emotional Performance

One of the key factors in determining whether a student demonstrates an **educational** disability under IDEA and state special education rules, is that the defined characteristics of the disability adversely affect a child's education performance. The impact of those characteristics must indicate that s/he **needs** the support of specially designed instruction or services beyond accommodations and interventions of the regular environment. When considering how to determine this, teams should consider if the student requires specially designed instruction in order to benefit from his/her education program based on identified deficits that could impact a student's performance such as the inability to communicate effectively, significantly below average academic achievement, the inability to independently navigate a school building, or the inability to take care of self-care needs without support. Therefore, how disability characteristics may adversely impact educational performance applies broadly to educational performance, and teams should consider both quantity and quality of impact in any/all related areas (e.g., academic, emotional, communication, social, etc.).

Section II: Pre-referral and Referral Considerations

The Special Education Framework provides general information related to pre-referral considerations and multi-tiered interventions in component 2.2.

It is the responsibility of school districts to seek ways to meet the unique educational needs of all children within the general education program prior to referring a child to special education. By developing a systematic model within general education, districts can provide

[7] Brain Injury Association of American: http://www.biausa.org/brain-injury-children.htm

preventative, supplementary differentiated instruction and supports to students who are having trouble reaching benchmarks.

In 1996, the Tennessee General Assembly mandated a statewide registry to identify children and adults admitted to hospitals with a medical diagnosis indicating TBI (T.C.A. § 68-55-203) and an annual report to be provided (T.C.A. § 68-55-205). Previous data indicates that not all students identified with this medical diagnosis required special education services. A number of these students will have no residual conditions from their injury. Nationally, students with TBI are a low incidence, yet a high prevalence disability group. According to the U.S. Department of Education's report, *IDEA Part B Child Count and Educational Environments Collection*, 25,488 students (including students in the United States, outlying areas, and associated states) were identified as students with a TBI and received special education services during the 2015-16 school year. Of these students identified as having a TBI, 326 were Tennessee students.

Another group of students with TBI is successfully served with Section 504 accommodation plans. These students may need to be carefully monitored by a student support team. For example, a high school student with a mild brain injury may need short-term accommodations to cope with decreased processing speed and reduced new learning skills. Copies of class notes, oral examinations, leaving classes five minutes early and highlighted texts are examples of strategies that allow the student to stay in school while healing occurs and skills return to baseline. Generally, given appropriate accommodations, most students with a mild TBI will recover cognitive skills if they are not unduly stressed during the healing period.

Pre-referral Interventions

Students who have been identified as at risk will receive appropriate interventions in their identified area(s) of deficit. These interventions are determined by school-based teams by considering multiple sources of academic and behavioral data.

One way the Tennessee Department of Education ("department") supports prevention and early intervention is through multi-tiered systems of supports (MTSS). The MTSS framework is a problem-solving system for providing students with the instruction, intervention, and supports they need with the understanding there are complex links between students' academic and behavioral, social, and personal needs. The framework provides multiple tiers of interventions with increasing intensity along a continuum. Interventions should be based on the identified needs of the student using evidenced-based practices. Examples of tiered intervention models include Response to Instruction and Intervention (RTI^2), which focuses on academic instruction and support, and Response to Instruction and Intervention for Behavior (RTI^2-B). Within the RTI^2 Framework and RTI^2-B, academic and behavioral interventions are provided through Tier II and/or Tier III interventions (see MTSS Framework, RTI^2 Manual, & RTI^2-B Manual).

These interventions are *in addition to*, and not in place of, on-grade-level instruction (i.e., Tier I). It is important to recognize that ALL students should be receiving appropriate standards-based differentiation, remediation, and reteaching, as needed in Tier I, and that Tiers II and III are specifically skills-based interventions.

It is important to document data related to the intervention selection, interventions (including the intensity, frequency, and duration of the intervention), progress monitoring, intervention integrity and attendance information, and intervention changes to help teams determine the need for more intensive supports. This also provides teams with information when determining the least restrictive environment needed to meet a student's needs.

Cultural Considerations

Interventions used for EL students must include evidence-based practices for ELs.

To meet the needs of a student with a TBI, the school team should be familiar with the educational definition of TBI, pre-referral considerations, and information to gather prior to a referral for comprehensive assessment.

Characteristics and Risk Factors

TBIs may result in a variety of consequences, which are often interrelated due to the specific area of the brain affected. These may include changes in neurological, cognitive, emotional, and behavioral functioning. Neurological and cognitive consequences may include: headaches, disruptions in sleep/wake cycles, sensory-motor difficulties, seizures, information processing deficits, executive dysfunction, and difficulty remembering information. Similarly, emotional and behavioral difficulties can have social impacts for the student. For example, students may exhibit a noted change in their typical emotional response in situations (such as depression, anxiety, anger, and irritability) and may exhibit a change in their behavioral responses (such as impulsivity, aggression, impatience), which can impact their social interactions.[8]

According to the Center for Disease Control,[9] school professionals should watch for the following signs and symptoms when a student returns to school following a brain injury:

- increased difficulty paying attention or concentrating,
- increased problems remembering or learning new information,
- longer time needed to complete tasks or assignments,
- difficulty organizing tasks or shifting between tasks,

[8] Jantz, P. B., Davies, S. C., & Bigler, E. D. (2014). Working with Traumatic Brain Injury in Schools: Transition, Assessment, and Intervention. Routledge. Pg 69-84

[9] Centers for Disease Control and Prevention (2017).Traumatic Brain Injury & Concussion: Signed and Symptoms. Retrieved July 7, 2017 from: https://www.cdc.gov/traumaticbraininjury/symptoms.html

- inappropriate or impulsive behavior during class,
- greater irritability,
- less ability to cope with stress,
- more emotional than usual,
- fatigue,
- difficulties handling a stimulating school environment (e.g., lights, noise, etc.), and
- physical symptoms (e.g., headache, nausea, dizziness).

Impact on Speech and Communication

TBI also impacts an individual's communication skills. The American Speech-Language-Hearing Association (ASHA) reports that the location and severity of a TBI can have significant impact on an individual's communication skills. The following are some ways that these skills can be impacted:

- difficulty producing speech and/or language correctly;
- slurred speech due to weak muscles; and/or
- difficulty in programming oral muscles to produce speech.

The process of understanding other people's spoken messages may require more effort for individuals with TBI than for typical students of the same age. This may also cause challenges with spelling, writing, and reading. Social communication skills are often impaired such that individuals with TBI have difficulty appropriately interacting with others during conversations.[10]

Additional resources addressing risk factors and educational implications include:

- Project BRAIN: http://www.tndisability.org/brain
- School-Wide Concussion Management, Oregon Center for Applied Science: http://brain101.orcasinc.com/
- The Center on Brain Injury Research and Training: https://www.cbirt.org/back-school/tidbits
- Get Schooled on Concussions: Return to Learn: http://www.getschooledonconcussions.com/
- Colorado Kids Brain Injury Network: Brain Injury Matrix Guide: http://cokidswithbraininjury.com/educators-and-professionals/brain-injury-matrix-guide

The School Team's Role

A major goal of the school-based pre-referral intervention team is to adequately address students' academic and behavioral needs. The process recognizes many variables affect learning. Thus, rather than first assuming the difficulty lies within the child, team members

[10] Traumatic Brain Injury (n.d.). Retrieved February 23, 2017, from http://www.asha.org/public/speech/disorders/TBI/

and the teacher consider a variety of variables that may be at the root of the problem, including the curriculum, instructional materials, instructional practices, and teacher perceptions.

When school teams meet to determine intervention needs there should be an outlined process that includes:[11]

- documentation, using multiple sources of data, of difficulties and/or areas of concern;
- a problem-solving approach to address identified concerns;
- documentation of interventions, accommodations, strategies to improve area(s) of concern;
- intervention progress monitoring and fidelity; and
- a team decision-making process for making intervention changes and referral recommendations based on the student's possible need for more intensive services and/or accommodations.

Pre-referral interventions and accommodations should be individualized and based on the needs of the student. The school team should begin by identifying the symptoms that the student is experiencing and then try to identify specific factors that may worsen the student's symptoms so steps can be taken to modify those factors. Example considerations include:

- Do some classes, subjects, or tasks appear to pose greater difficulty than others? (compared to pre-concussion performance)
- For each class, is there a specific time frame after which the student begins to appear unfocused or fatigued? (e.g., headaches worsen after 20 minutes)
- Is the student's ability to concentrate, read, or work at normal speed related to the time of day? (e.g., The student has increasing difficulty concentrating as the day progresses.)
- Are there specific things in the school or classroom environment that seem to distract the student?
- Are any behavioral problems linked to a specific event, setting (e.g., bright lights in the cafeteria or loud noises in the hallway), task, or other activity?

Though most students tend to show recovery and improvement during the first year post-injury, there are some students who may develop new deficits or impairments as they get older. School personnel should be aware that new deficits may emerge as the student ages.[12] An example of this might be a student who exhibits a deficit in executive functioning that becomes more pronounced as they age since their executive functioning skills do not

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[11] National Alliance of Black School Educators (2002). *Addressing Over-Representation of African American Students in Special, Education*

[12] Jantz, P. B., Davies, S. C., & Bigler, E. D. (2014). Working with Traumatic Brain Injury in Schools: Transition, Assessment, and Intervention. Routledge. Pg 92

develop at the same rate as their same-aged peers. Therefore, a student's need for accommodations may change over time (e.g., see Appendix L for phases of improvement).

A major goal of the school-based pre-referral intervention team is to adequately address students' academic and behavioral needs. Since many variables affect learning, rather than first assuming the difficulty lies within the child, team members and the teacher should consider a broad range of variables when determining the root of the problem. Potential factors include curriculum, instructional materials, instructional practices, and teacher perceptions. Additional resources regarding intervention and accommodation planning for students with a TBI, including concussions, can be found in Appendix J and Appendix K as well as the Tennessee Department of Health's Return to Learn/Return to Play: Concussion Management Guidelines.

Helpful Information to Gather When Considering a Referral

When considering TBI as an eligibility category, the assessment team should consider information from a variety of sources. If possible, medical information regarding the injury should include the date and circumstances of the injury, the type and length of the medical treatment received, and any rehabilitative services that were/are being provided. The school team should consider any current vision and hearing screenings and review the child's educational performance prior to, and following, the injury in order to ascertain potential adverse effects. Academic and/or behavioral interventions before and after the injury should also be reviewed. If previous psychoeducational evaluation results are available, the school team should consider these results, which may provide helpful information when determining the impact of the injury to the child's intellectual, academic, and behavioral functioning.

As with every category of disability, it is important to gather background information prior to a referral for special education assessment. Background history as previously discussed is important to review, including the child's educational and medical history. A variety of medical information, including any discharge summaries from hospitalizations and rehabilitation facilities is helpful for the team to consider when making recommendations. In addition, the team will need medical documentation of the brain injury from a licensed physician as well as any restrictions recommended for the student when in the school environment (e.g., "no contact sports"). When reviewing medical documentation, it may be helpful for school personnel to be familiar with the Glasgow Coma Scale (GCS), which is the most commonly used scale by professionals to describe the level of consciousness following a TBI. It is used to help indicate the severity of an acute brain injury. The GCS measures eye opening, verbal response, and motor response, and is based on a 15-point scale.

Glasgow Coma Scale Summary[13]

GCS		Pediatric GCS	
Best Eye Response (4)	No eye opening Eye opening to pain Eye opening to verbal command/speech Eye opening spontaneously	Best Eye Response (4)	No eye opening Eye opening to pain Eye opening to verbal command/speech Eye opening spontaneously
Best Verbal Response (5)	No verbal response Incomprehensible sounds Inappropriate words Confused Orientated	Best Verbal Response (5)	No verbal response Inconsolable, agitated Inconsistently inconsolable, moaning Cries but consolable; inappropriate interactions Smiles, follows objects, interacts, oriented to sounds
Best Motor Response (6)	No motor response Extension to pain Flexion to pain Withdrawal from pain Localizing to pain Obeys commands	Best Motor Response (6)	No motor response Extension in pain Abnormal flexion to pain (for an infant) Withdrawal from pain Withdrawal from touch Moves spontaneously and purposefully

The final GCS is determined by adding the scores in the eye, verbal, and motor response areas to obtain a score between 3 and 15. This number then helps medical professionals determine possible levels for survival with the lower numbers corresponding to more severe injuries and poorer prognoses.

[13] Adapted from: "Glasgow Coma Scale," (n.d.), "Mild TBI Symptoms," (n.d.), and, "Trauma Scoring: Glasgow Pediatric Coma Score," (n.d.).

GCS Score	Disability Range	Characteristics
13–15	Mild	*Most prevalent type *Fatigue *Headaches *Nausea *Dizziness *Poor memory/concentration *Feelings of depression *Irritability *Seizures *Sleep disturbances *Changes in mood
9–12	Moderate	*Loss of consciousness greater than 30 minutes *Physical or cognitive impairments that may resolve
3–8	Severe	*Coma: unconscious state *No meaningful response, no voluntary activities
(Less than 3)	Vegetative State	*Sleep/wake cycles *No interaction with environment *No localized response to pain

In addition to medical information, the school personnel should consider any individual assessment results that the student received post-injury. For example, the student may have received a psychoeducational evaluation, speech-language evaluation, occupational therapy evaluation, and/or physical therapy evaluation while in rehabilitation. Information from these reported evaluations should be considered when developing an assessment plan. Other, more specialized assessments that could provide helpful information may include audiological or functional vision assessments, based on a child's individual needs. Lastly, school teams should consider the student's current performance and how the brain injury is impacting the student in the school environment.

Background Considerations

Teams should consider factors that could influence performance and perceived ability prior to referral to assist the team in making decisions regarding evaluation needs. There are specific factors that should be ruled as out as the primary cause of perceived deficits.

- Lack of instruction: Information obtained during assessment that indicates lack of instruction in reading and math is ***not*** the determinant factor in this student's inability to progress in the general education curriculum.

- Limited English proficiency: Limited English proficiency must be ruled out as the primary reason that the team suspects a disability. If there is another language spoken primarily by the student or spoken primarily at home, the team needs to document the reason English proficiency is not the primary reason for cognitive and adaptive deficits. Teams should also consider information regarding a student's language skill in his/her dominant language, as deficits in receptive, expressive, and/or pragmatic language are likely to have a significant impact on developing and maintaining social relationships

- Medical conditions: When considering TBIs, the team should review all medical findings that are available per parent consent. Other medical conditions can impact functioning and thus the health condition may be the primary cause of underperformance. For more information, see the Other Health Impairment Evaluation Guidance on the evaluation and eligibility website.

Referral

Pursuant to IDEA Regulations at 34 C.F.R. §300.301(b), a parent or the school district may refer a child for an evaluation to determine if the child is a child with disability. If a student is suspected of an educational disability at any time, s/he may be referred by the student's teacher, parent, or outside sources for an initial comprehensive evaluation based on referral concerns. **The use of RTI^2 strategies may not be used to delay or deny the provision of a full and individual evaluation, pursuant to 34 CFR §§300.304-300.311, to a child suspected of having a disability under 34 CFR §300.8.** For more information on the rights to an initial evaluation, refer to Memorandum 11-07 from the U.S. Department of Education Office of Special Education and Rehabilitative Services.

School districts should establish and communicate clear written referral procedures to ensure consistency throughout the district. Upon referral, all available information relative to the suspected disability, including background information, parent and/or student input, summary of interventions, current academic performance, vision and hearing screenings, relevant medical information, and any other pertinent information should be collected and must be considered by the referral team. The team, not an individual, then determines whether it is an appropriate referral (i.e., the team has reason to suspect a disability) for an initial comprehensive evaluation. The school team must obtain informed parental consent and provide written notice of the evaluation.

TN Assessment Team Instrument Selection Form

In order to determine the most appropriate assessment tools, to provide the best estimate of skill or ability, for screenings and evaluations, the team should complete the TN Assessment Instrument Selection Form (TnAISF) (see Appendix A). The TnAISF provides needed information to ensure the assessments chosen are sensitive to the student's:

- cultural-linguistic differences;
- socio-economic factors; and
- test taking limitations, strengths, and range of abilities.

Section III: Comprehensive Evaluation

When a student is suspected of an educational disability and/or is not making progress with appropriate pre-referral interventions that have increased in intensity based on student progress, s/he may be referred for a psychoeducational evaluation. A referral may be made by the student's teacher, parent, or outside sources at any time.

Referral information and input from the child's team lead to the identification of specific areas to be included in the evaluation. All areas of suspected disability must be evaluated. In addition to determining the existence of a disability, the evaluation should also focus on the educational needs of the student as they relate to a continuum of services. Comprehensive evaluations shall be performed by a multidisciplinary team using a variety of sources of information that are sensitive to cultural, linguistic, and environmental factors or sensory impairments. The required evaluation participants for evaluations related to suspected disabilities are outlined in the eligibility standards. Once written parental consent is obtained, the school district must conduct all agreed upon components of the evaluation and determine eligibility within sixty (60) calendar days of the district's receipt of parental consent.

Cultural Considerations: Culturally Sensitive Assessment Practices

IEP team members must understand the process of second language acquisition and the characteristics exhibited by EL students at each stage of language development if they are to distinguish between language differences and other impairments. The combination of data obtained from a case history and interview information regarding the student's primary or home language (L1), the development of English language (L2) and ESL instruction, support at home for the development of the first language, language sampling and informal assessment, as well as standardized language proficiency measures should enable the IEP team to make accurate diagnostic judgments. Assessment specialists must also consider these variables in the selection of appropriate assessments. Consideration should be given to the use of an interpreter, nonverbal assessments, and/or assessment in the student's primary language. Only after documenting problematic behaviors in the primary or home language and in English, and eliminating extrinsic variables as causes of these problems, should the possibility of the presence of a disability be considered.

English Learners

To determine whether a student who is an English learner has a disability it is crucial to differentiate a disability from a cultural or language difference. In order to conclude that an

English learner has a specific disability, the assessor must rule out the effects of different factors that may simulate language disabilities. One reason English learners are sometimes referred for special education is a deficit in their primary or home language. No matter how proficient a student is in his or her primary or home language, if cognitively challenging native language instruction has not been continued, he or she is likely to demonstrate a regression in primary or home language abilities. According to Rice and Ortiz (1994), students may exhibit a decrease in primary language proficiency through:

- inability to understand and express academic concepts due to the lack of academic instruction in the primary language,
- simplification of complex grammatical constructions,
- replacement of grammatical forms and word meanings in the primary language by those in English, and
- the convergence of separate forms or meanings in the primary language and English.

These language differences may result in a referral to special education because they do not fit the standard for either language, even though they are not the result of a disability. The assessor also must keep in mind that the loss of primary or home language competency negatively affects the student's communicative development in English.

In addition to understanding the second language learning process and the impact that first language competence and proficiency has on the second language, the assessor must be aware of the type of alternative language program that the student is receiving.

The assessor should consider questions such as:

- In what ways has the effectiveness of the English as a second language (ESL) instruction been documented?
- Was instruction delivered by the ESL teacher?
- Did core instruction take place in the general education classroom?
- Is the program meeting the student's language development needs?
- Is there meaningful access to core subject areas in the general education classroom? What are the documented results of the instruction?
- Were the instructional methods and curriculum implemented within a sufficient amount of time to allow changes to occur in the student's skill acquisition or level?

The answers to these questions will help the assessor determine if the language difficulty is due to inadequate language instruction or the presence of a disability.

It is particularly important for a general education teacher and an ESL teacher/specialist to work together in order to meet the linguistic needs of this student group. To ensure ELs are receiving appropriate accommodations in the classroom and for assessment, school personnel should consider the following when making decisions:

- Student characteristics such as:
    - Oral English language proficiency level

    - English language proficiency literacy level
    - Formal education experiences
    - Native language literacy skills
    - Current language of instruction
- Instructional tasks expected of students to demonstrate proficiency in grade-level content in state standards
- Appropriateness of accommodations for particular content areas

*For more specific guidance on English learners and immigrants, refer to the English as a Second Language Program Guide (August 2016).

Best Practices

Evaluations for all disability categories require comprehensive assessment methods that encompass multimodal, multisource, multidomain and multisetting documentation.

- Multimodal: In addition to an extensive review of existing records, teams should gather information from anecdotal records, unstructured or structured interviews, rating scales (more than one; narrow in focus versus broad scales that assess a wide range of potential issues), observations (more than one setting; more than one activity), and work samples/classroom performance products.

- Multisource: Information pertaining to the referral should be obtained from parent(s)/caregiver(s), teachers, community agencies, medical/mental health professionals, and the student. It is important when looking at each measurement of assessment that input is gathered from all invested parties. For example, when obtaining information from interviews and/or rating scales, consider all available sources—parent(s), teachers, and the student—for **each** rating scale/interview.

- Multidomain: Teams should take care to consider all affected domains and provide a strengths-based assessment in each area. Domains to consider include cognitive ability, academic achievement, social relationships, adaptive functioning, response to intervention, and medical/mental health information.

- Multisetting: Observations should occur in a variety of settings that provide an overall description of the student's functioning across environments (classroom, hallway, cafeteria, recess), activities (whole group instruction, special area participation, free movement), and time. Teams should have a 360 degree view of the student.

Evaluation Procedures for Traumatic Brain Injury (Standards)

A comprehensive evaluation should be performed by a multidisciplinary team using a variety of sources of information that are sensitive to cultural, linguistic, and environmental factors or sensory impairments to include the following:

(1) Appropriate medical statement obtained from a licensed medical provider;
(2) Parent/caregiver interview;
(3) Educational history and current levels of educational performance;
(4) Functional assessment of cognitive/communicative abilities;
(5) Social adaptive behaviors which relate to TBI;
(6) Physical adaptive behaviors which relate to TBI; and
(7) Documentation, including observation and/or assessment, of how TBI adversely affects the child's educational performance in his/her learning environment and the need for specialized instruction and related services (i.e., to include academic and/or nonacademic areas).

Evaluation Procedures Guidance:

Standard 1: Appropriate medical statement obtained from a licensed medical provider
A medical statement is a key component of the evaluation. The statement should include the child's diagnosis (if available) and/or review of the student's medical information indicating a credible history of brain injury, prognosis, treatment recommendations, and any previous medical and therapeutic interventions (see sample release in Appendix B and a sample medical information form in Appendix C). The evaluation report should contain a summary of the brain injury, including how and when it occurred, medical findings (including those from outpatient and/or in rehabilitation facilities), dates of the medical evaluation, and the physicians involved (i.e., names and affiliations).[14]

If provided, the summary should include any of the impairments associated with TBI as outlined in the definition that the child manifests. The impact of any identified impairments should be investigated as part of the evaluation.

Standard 2: Parent/caregiver interview
Parent interviews may be completed in person or by phone and/or through structured questionnaires, with follow ups as needed. The focus of the interview should capture pre-injury and post-injury functioning that relate to developmental history (including cognitive, motor, communication, and adaptive behaviors), family history/relations, academic skills, and social skills. A sample developmental history questionnaire can be found in Appendix D.

Standard 3: Educational history and current levels of educational performance
Educational history is important when considering differences in academic performance between pre- and post-injury. The assessment team will complete a file review of the child's educational history (see Appendix G for a file review template). The purpose of the review is to help document factors contributing to areas of concern and whether or not those factors

[14] Jantz, P.B., Davies, S.C., Bigler, E.D. (2014) Working with Traumatic Brain Injury in Schools: Transition, Assessment, and Intervention. New York, NY: Routledge

are related to TBI. The evaluation should contain of summary of this information and indicate if there is a correlation to the child's medical history.

For instance, all disabilities require that the assessment specialist(s) ensure a student's "lack of learning" is not due to "lack of instruction" (e.g., excessive absences). However, students with significant physical problems related to the TBI may be absent frequently, which may in turn cause the child to fall behind peers academically. Therefore, the assessment team should review the child's medical and treatment history with consideration for the student's attendance record. The review may help the school team determine a need for services. For example, by reviewing past performance and absences, the team may find whether the student is able to make sufficient gains even with high absences. The student may demonstrate a greater ability to learn with slight accommodations rather than specialized instruction.

In order to gain further understanding of the child's engagement during instruction, study skills, and classroom performance, evaluations should include teacher, parent, and student input when appropriate (e.g., interviews, questionnaires, checklists). These skills should also be addressed as part of the required direct observations.

Measures of educational performance include, but are not limited to, curriculum-based measures, criterion-referenced assessments (e.g., TN Ready), universal screening measures, work samples, formative assessments, and teacher observations/checklist of academic skills. Additionally, teams may indicate that individually administered standardized assessments are needed to gain normative and diagnostic information regarding academic skills.

Standard 4: Functional assessment of cognitive/communicative abilities

Best practice dictates that no one cognitive measure should be used for all assessments. The correct instrument selection must result from a comprehensive review of information obtained from multiple sources prior to evaluation. This practice is critical in obtaining a valid cognitive score. Refer to the TN Assessment Instrument Selection Form (TnAISF) section when determining the most appropriate assessment.

Factors that should be considered in selecting a cognitive abilities instrument:

1. Choose evaluation instruments that are unbiased for use with minority or culturally or linguistically different student populations (e.g., ELLs). Use instruments that yield assessment results that are valid and reliable indications of the student's potential. For example, nonverbal measures may better measure cognitive ability for students who are not proficient in English or socioeconomically disadvantaged students.
2. When intelligence test results are significantly skewed in one or more areas of the test battery's global components due to significant differences in the culturally-accepted language patterns of the student's subculture, consider administering another measure more closely aligned with the culture, strengths, and abilities of the student.

3. Consider evidence (documented or suspected) of another disability (e.g., ADHD, emotional disturbance, autism, speech and language impairments, hearing impairment, visual impairment, specific learning disabilities).
4. Be mindful that the student's subculture may not encourage lengthy verbal responses.

If a child has previously been evaluated, the total history of assessments and scores should be obtained and considered in order to guide assessment selection, validate results, and interpret results. Consider the following:

- Are the assessment results consistent over time?
- Were areas addressed or overlooked on previous evaluations (e.g., areas of strength or weakness)?
- If the child has another disability, is that impacting the performance on the current test?
- Have the most appropriate tests been given? For example, have language, culture, test/retest factors been accounted for in the test selection?
  Do student social mannerisms, emotions, or behaviors create bias in terms of how the student is assessed.

The most reliable score on a given cognitive measure is the full scale score, or total composite score, of the assessment tool and should be used when considered valid. A comprehensive cognitive evaluation includes verbal and nonverbal components. However, understanding that factors as mentioned above (e.g., motor or visual limitations, lack of exposure to language, language acquisition, cultural differences, etc.) may influence performance on a measure and depress the overall score, there are other options that can be considered best estimates of ability based on the reliability and validity of alternate composites of given assessments. The assessment specialist trained in cognitive/intellectual assessments should use professional judgment and consider all factors influencing performance in conjunction with adaptive behavior deficits when considering the use of the standard error of measurement.

Typically, structured tests that isolate specific skill areas are utilized by many disciplines to determine a child's level of function. However, it is critical to understand that these tests can mask key deficits in a child with TBI experiences. The child may perform at his/her age level and/or close to baseline when a standardized test is administered in a quiet environment, allowing for clear directions, one-on-one guidance and feedback from an examiner, controlled and often short stimuli, and organized presentation of material in a hierarchical fashion. However, in less structured settings that may be prone to noise or distraction, damage to the frontal and prefrontal regions of the brain can impair the student's ability to sustain attention, process information, and organize thoughts. In cases like these where competing stimuli (e.g., loud backgrounds, emotional triggers, or distractions) are introduced into the child's natural environments such as home or school, the injured brain areas responsible for the regular coordination and execution of functional activities that require

integration of information from a variety of brain regions could be taxed beyond their impaired capacity to perform effectively. In these situations, children with TBI might lose the ability to appropriately act on new or complex information, or find performance of tasks to be more challenging. Thus, it is important to compare test results with interviews and observations in order to provide additional information and better overall picture of the child's range of disability.

The use of standardized assessments for individual cognitive areas is most helpful in isolating specific aspects of cognition that may be strengths or particular challenges for a student. For example, tests providing information related to auditory attention, memory, and executive functioning skills may be helpful in guiding intervention strategies for new learning. However, the examiner should use caution when interpreting scores and account for motor difficulties, fatigue, or other factors that impact performance.[15]

An individual's pragmatic (social) language skills may need to be evaluated by a speech-language pathologist as individuals with TBI often have difficulty starting conversations appropriately, maintaining conversations, and explaining humor. Additional social/behavioral performance areas to monitor include: unexpected conflicts with peers, inappropriate or impulsive behavior in class, disrespectful behavior towards a teacher, excessive moodiness, unexpected mood swings, and excessive tiredness. Depending upon where the brain injury occurred, an evaluation may or may not include an assessment of an individual's speech production as well as oral musculature and programming, voice, and fluency skills.

It is important for the speech-language pathologist to work as part of a multi-disciplinary team when considering the speech/language skills of an individual who is suspected of having a TBI. Children with a TBI can often converse in a general way and are completely intelligible in terms of speech production skills. It is important that the assessment staff examine communication skills across all academic areas. When d*iscourse skills,* or the organization of a substantial amount of language, either in speaking or writing, is affected, problems arise regarding the amount of information expressed, the coherence or logical organization of the information, and the use of appropriate linguistic markers for clear communication of complex ideas. Abstract language such as understanding humor, popular slang, colloquial (everyday) speech, figures of speech, and irony may also be challenging. *Word fluency,* or the ability to rapidly retrieve an appropriate word for each context, is particularly vulnerable. This decreases the flow of speech and also contributes to awkward and incomplete expression of ideas. Maintaining a fluid, ever-changing conversation and managing topic shifts are difficult.

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[15] Chesire, D., Buckley, V., Canto, A., (2011) Research Based-Practice: Assessments of Students with Traumatic Brain Injury. NASP Communique 40(2).

Non-standardized procedures are often used as a good way to investigate speech, language, and cognitive skills, and they are particularly important when evaluating individuals suspected of having a TBI. Non-standardized assessment procedures can identify:[16]

- abilities in areas for which there are no/limited standardized measures;
- available support systems and where education needs to be provided to families;
- the individual's demands and abilities within functional contexts and activities;
- strategies and task modifications that can be used to maximize the individual's functioning level;
- tracking outcome in response to intervention; and
- variables that may positively influence task performance and learning within the individual's environment.

See Appendix E for a sample list of assessments that may be used in evaluations; see Appendix L for common phases of cognitive improvement after a TBI.

Standard 5: Social adaptive behaviors which relate to Traumatic Brain Injury.
General adaptive behaviors are broken down into three domains (i.e., conceptual, social skills, and practical adaptive behaviors). However, not all adaptive measures label their domains with the same terminology. This standard requires assessment teams to provide a measure of social (skills) adaptive behaviors which can be measured with standardized normed rating scales.

- Social adaptive behaviors generally include the child's interpersonal skills, social responsibility, self-esteem, gullibility, naiveté, social problem solving, and the ability to follow rules/obey laws and to avoid being victimized.

The scales can be completed independently by caretakers or by interview format with the parents. In the school setting, those most familiar with the student should complete the rating scales. Assessment specialists need to review the directions with those completing rating scales in order to prevent inaccurate ratings or misunderstanding of items. It is important to review results ratings and follow up if the results appear questionable based on observations.

While most measures include a total view of a child's adaptive behaviors, the focus of this standard addresses possible social impacts of the TBI. Therefore, the assessment specialist should include an analysis (not just the score) of social adaptive behaviors by documenting strengths and weaknesses.

[16] Coelho, Ylvisaker, & Turkstra, 2005

Information concerning behavioral and social/emotional levels of functioning for students with TBI should be gathered from standardized assessments (e.g., rating scales) and anecdotal reports. It is best to gather information from a variety of sources and environments and compare to pre-injury status. Individuals to be interviewed include:

- the student (when appropriate),
- the student's parents,
- the student's teachers (past and present),
- support staff at the school, and
- the hospital/rehabilitation personnel (if possible).

Standard 6: Physical adaptive behaviors which relate to traumatic brain injury

Physical adaptive behaviors can be measured in a variety of ways depending on referral concerns and the unique needs of the student. At minimum, the evaluation should address physical adaptive behaviors through a measure of practical skills, which may be sufficient for some cases. Practical adaptive behaviors include activities of daily living, occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, and use of the telephone. Additionally, children who are demonstrating more physical challenges may require additional measures or observations by an occupational or physical therapist to further investigate physical adaptive behaviors. The adaptive behaviors addressed should include the student's independent ability to manage self-care needs and to physically navigate the learning environment.

While most measures include a total view of a child's adaptive behaviors, the focus of this standard addresses possible physical impacts of the adaptive behavior on the student's daily functioning. Therefore, the assessment specialist should include an analysis (not just the score) of practical/physical adaptive behaviors by documenting strengths and weaknesses.

Standard 7: Documentation, including observation and/or assessment, of how traumatic brain injury adversely affects the child's educational performance in his/her learning environment and the need for specialized instruction and related services (i.e., to include academic and/or nonacademic areas)

Documentation of adverse effect(s) in the learning environment is an essential component of determining the appropriate level of service. To ensure that a special education level of service is the least restrictive environment needed for academic success, teams should provide extensive documentation of their recommended prevention and intervention efforts, as well as the data indicating that the general education setting is not adequate support for a student's needs. Documentation may include how the disability and related impairments impacts academic performance, access to the general education curriculum, communication, prevocational skills, social skills, and the ability to manage personal daily needs and routines independently. (See Appendix I for common educational implications.)

Evaluation Participants

Information shall be gathered from the following persons in the evaluation of TBI:

(1) The parent;
(2) The child's general education teacher;
(3) A licensed special education teacher;
(4) A licensed school psychologist, licensed psychologist, licensed psychological examiner (under the direct supervision of a licensed psychologist), licensed senior psychological examiner, or licensed psychiatrist;
(5) A licensed medical provider (i.e., licensed physician, physician's assistant, or licensed nurse practitioner); and
(6) Other professional personnel (e.g., occupational therapist, physical therapist), as indicated.

Evaluation Participants Guidance

Below are examples of information participants may contribute to the evaluation.

(1) The parent(s) (or legal guardian(s)):
- developmental and background history
- social/behavioral development
- current concerns
- other relevant interview information
- rating scales (e.g., adaptive measures, social behavior rating scales)

(2) The child's general education classroom teacher(s) (e.g., general curriculum/core instruction teacher):
- observational information related to assessment areas
- rating scales or checklists (e.g., adaptive measures)
- work samples
- curriculum based measures/assessment results
- criterion-referenced test results (e.g., TCAP, TNReady, end-of-course tests, etc.)
- other relevant quantitative/ qualitative data

(3) A licensed special educator (e.g., IEP development teacher/case manager):
- observational information
- pre-vocational checklists
- direct assessment (e.g., academic achievement test)
- transitional checklists/questionnaires/interviews
- vocational checklists/questionnaires/interviews
- other relevant quantitative/qualitative data

(4) A licensed school psychologist, licensed psychologist, licensed psychological examiner (under the direct supervision of a licensed psychologist), licensed senior psychological examiner), or licensed psychiatrist:

- direct assessment (e.g., cognitive, achievement)
- school record review
- review of outside providers' input
- observations in multiple settings with peer comparisons
- interviews
- rating scales
- other relevant quantitative/qualitative data

(5) A licensed medical provider (i.e., licensed physician, physician's assistant or licensed nurse practitioner

- medical evaluation documenting diagnosis(-es), prognosis, implications
- consultation on learning indications (when possible)

(6) Other professional personnel (e.g., occupational therapist, physical therapist), as indicated.

- direct assessment (e.g., motor evaluation)
- school record review
- review of outside providers' input
- observations in multiple settings with peer comparisons
- interviews
- rating scales
- other relevant quantitative/ qualitative data

Components of Evaluation Report

The following are recommended components of an evaluation. The outline is not meant to be exhaustive, but an example guide to use when writing evaluation results.

- Reason for referral
- Current/presenting concerns
- Previous evaluations, findings, recommendations (e.g., school-based and outside providers)
- School history (e.g., attendance, grades, state-wide achievement, disciplinary/conduct info, BIP, pre-/post- injury summary)
- Relevant developmental and background history
- Assessment instruments/procedures (e.g., test names, dates of evaluations, observations, and interviews, consultations with specialists)
- Medical information (e.g., diagnoses, prognoses, past/current medication, past/current treatment approaches, medical findings of injury)
- Current assessment and results
- Tennessee's TBI disability definition

- Educational impact statement: review of factors impacting educational performance such as attendance, classroom engagement, study skills, education history
- Summary
- Recommendations

Section IV: Eligibility Considerations

After completion of the evaluation, the IEP team must meet to review results and determine if the student is eligible for special education services. Eligibility decisions for special education services is two-pronged: (1) the team decides whether the evaluation results indicate the presence of a disability ***and*** (2) the team decides whether the identified disability adversely impacts the student's educational performance such that s/he requires the most intensive intervention (i.e., special education and related services). The parent is provided a copy of the written evaluation report completed by assessment specialists (e.g., psychoeducational evaluation, speech and language evaluation report, occupational and/or physical therapist report, vision specialist report, etc.). After the team determines eligibility, the parent is provided a copy of the eligibility report and a prior written notice documenting the team's decision(s). If the student is found eligible as a student with an educational disability, an IEP is developed within thirty (30) calendar days.

Evaluation results enable the team to answer the following questions for eligibility:

- **Are both prongs of eligibility met?**
    - **Prong 1:** Do the evaluation results support the presence of an educational disability?
        - The team should consider educational disability definitions and criteria referenced in the disability standards (i.e., evaluation procedures).
        - Are there any other factors that may have influenced the student's performance in the evaluation? A student is not eligible for special education services if it is found that the determinant factor for eligibility is either lack of instruction in reading or math, or limited English proficiency.
    - **Prong 2:** Is there documentation of how the disability adversely affects the student's educational performance in his/her learning environment?
        - Does the student demonstrate a need for specialized instruction and related services?
- Was the eligibility determination made by an IEP team upon a review of **all** components of the assessment?
- If there is more than one disability present, what is the **most impacting** disability that should be listed as the primary disability?

Specific Considerations for a Traumatic Brain Injury

A medical diagnosis of a TBI is not sufficient in and of itself to determine eligibility for special education. TBI is an educational disability and follows federal and state criteria as outlined in this guidance document in order to determine eligibility for services. A comprehensive evaluation that includes all evaluation standards must occur, and the team must review the results of the evaluation to help make eligibility decisions. Pre-referral interventions are not necessarily required to mitigate concerns prior to referral. Teams should consider whether general education interventions and accommodations would sufficiently meet the student's needs, particularly before determining whether specially designed instruction/related services are needed. Determination of eligibility is made by the IEP team upon a review of all components of the assessment. A child with TBI is not automatically eligible for special education and related services; eligibility also depends upon the educational impact caused by the TBI. An alternate way to support a child with a disability who does not require special education services, but whose condition substantially impacts the student's daily functioning, is through allowable accommodations under Section 504. Section 504 is a federal law that protects individuals with disabilities. More information about Section 504 can be found at: https://www2.ed.gov/about/offices/list/ocr/504faq.html.

Section V: Re-evaluation Considerations

A re-evaluation must be conducted **at least every three years** or earlier if conditions warrant. Re-evaluations may be requested by any member of the IEP team prior to the triennial due date (e.g., when teams suspect a new disability or when considering a change in eligibility for services). This process involves a review of previous assessments, current academic performance, and input from a student's parents, teachers, and related service providers which is to be documented on the Re-evaluation Summary Report (RSR). The documented previous assessments should include any assessment results obtained as part of a comprehensive evaluation for eligibility or any other partial evaluation. Teams will review the RSR during an IEP meeting before deciding on and obtaining consent for re-evaluation needs. Therefore, it is advisable for the IEP team to meet at least 60 calendar days prior to the re-evaluation due date. Depending on the child's needs and progress, re-evaluation may not require the administration of tests or other formal measures; however, the IEP team must thoroughly review all relevant data when determining each child's evaluation need.

Some of the reasons for requesting early re-evaluations may include:

- concerns, such as lack of progress in the special education program;
- acquisition by an IEP team member of new information or data;
- review and discussion of the student's continuing need for special education (i.e., goals and objectives have been met and the IEP team is considering the student's exit from his/her special education program); or
- new or additional suspected disabilities (i.e., significant health changes, outside evaluation data, changes in performance leading to additional concerns).

The IEP team may decide an evaluation is needed or not needed in order to determine continued eligibility. All components of The RSR must be reviewed prior to determining the most appropriate decision for re-evaluation. Reasons related to evaluating or not evaluating are listed below.

NO evaluation is needed:

- The team determines no additional data and/or assessment is needed. The IEP team decides that the student will continue to be eligible for special education services with his/her currently identified disability/disabilities.
- The team determines no additional data and/or assessment is needed. The IEP team decides that the student will continue to be eligible for special education services in his/her **primary** disability; however, the IEP team determines that the student is no longer identified with his/her secondary disability.
- The team determines no additional data and/or assessment is needed. The student is no longer eligible for special education services.
- (Out of state transfers): The team determines additional data and/or assessment is needed when a student transferred from out of state, because all eligibility requirements did NOT meet current Tennessee state eligibility standards. Therefore, the IEP team decides that the student would be eligible for special education services in Tennessee with their previously out-of-state identified disability/disabilities while a comprehensive evaluation to determine eligibility for Tennessee services is conducted.

Evaluation is needed:

- The team determines no additional data and/or assessment is needed for the student's **primary** disability. The IEP team decides that the student will continue to be eligible for special education services in his/her **primary** disability; however, the IEP team determines that the student may have an additional disability; therefore, an evaluation needs to be completed in the suspected disability classification area to determine if the student has a secondary and/or additional disability classification. In this case, the student continues to be eligible for special education services with the currently identified primary disability based on the date of the decision. The eligibility should be updated after the completion of the secondary disability evaluation if the team agrees a secondary disability is present (this should not change the primary disability eligibility date).
- The team determines additional data and/or assessment is needed for program planning purposes only. This is a limited evaluation that is specific to address and gather information for goals or services. This evaluation does not include all assessment components utilized when determining an eligibility NOR can an eligibility be determined from information gathered during program planning. If a

change in primary eligibility needs to be considered, a comprehensive evaluation should be conducted.

- The team determines an additional evaluation is needed to determine if this student continues to be eligible for special education services with the currently identified disabilities. A comprehensive is necessary anytime a team is considering a change in the primary disability. Eligibility is not determined until the completion of the evaluation; this would be considered a comprehensive evaluation and all assessment requirements for the eligibility classification in consideration must be assessed.

When a student's eligibility is changed following an evaluation, the student's IEP should be reviewed and updated appropriately.

Special Considerations for Traumatic Brain Injury

On the re-evaluation summary report (i.e., file review), the student's date of injury and prior hospitalizations, including rehabilitation, should be clearly noted. In addition, assessment information obtained pre-injury should be reported if they are available. When considering whether additional assessment is needed for program planning, the IEP team should consider what, if any, information is needed to develop the IEP. This may include assessment of skills such as: cognitive processing (such as processing speed), memory, language, speech, etc. For students whose communication is impaired due to the TBI, it is not necessary to list speech or language impairment as a secondary disability.

Appendix A: TN Assessment Instrument Selection Form

This form should be completed for all students screened or referred for a disability evaluation.

Student's Name_____ School_____ Date____/____/_____

The assessment team must consider the strengths and weaknesses of each student, the student's educational history, and the school and home environment. The Tennessee Department of Education (TDOE) does not recommend a single "standard" assessment instrument when conducting evaluations. Instead, members of the assessment team must use all available information about the student, including the factors listed below, in conjunction with professional judgment to determine the most appropriate set of assessment instruments to measure accurately and fairly the student's true ability.

THIS SECTION COMPLETED BY GIFTED ASSESSMENT TEAM

CONSIDERATIONS FOR ASSESSMENT		
LANGUAGE	❑	Dominant, first-acquired language spoken in the home is other than English
	❑	Limited opportunity to acquire depth in English (English not spoken in home, transience due to migrant employment of family, dialectical differences acting as a barrier to learning)
ECONOMIC	❑	Residence in a depressed economic area and/or homeless
	❑	Low family income (qualifies or could qualify for free/reduced lunch)
	❑	Necessary employment or home responsibilities interfere with learning
ACHIEVEMENT	❑	Student peer group devalues academic achievement
	❑	Consistently poor grades with little motivation to succeed
SCHOOL	❑	Irregular attendance (excessive absences during current or most recent grading period)
	❑	Attends low-performing school
	❑	Transience in elementary school (at least 3 moves)
	❑	Limited opportunities for exposure to developmental experiences for which the student may be ready
ENVIRONMENT	❑	Limited experiences outside the home
	❑	Family unable to provide enrichment materials and/or experiences
	❑	Geographic isolation
	❑	No school-related extra-curricular learning activities in student's area of strength/interest
OTHER	❑	Disabling condition which adversely affects testing performance (e.g., language or speech impairment, clinically significant focusing difficulties, motor deficits, vision or auditory deficits/sensory disability)
	❑	Member of a group that is typically over- or underrepresented in the disability category

OTHER CONSIDERATIONS FOR ASSESSMENT

__ May have problems writing answers due to age, training, language, or fine motor skills
__ May have attention deficits or focusing/concentration problems
__ Student's scores may be impacted by assessment ceiling and basal effects
__ Gifted evaluations: high ability displayed in focused area: _____
__ Performs poorly on timed tests or Is a highly reflective thinker and does not provide quick answers to questions
__ Is extremely shy or introverted when around strangers or classmates
__ Entered kindergarten early or was grade skipped _____ year(s) in _____ grade(s)
__ May have another deficit or disability that interferes with educational performance or assessment

SECTION COMPLETED BY ASSESSMENT PERSONNEL

As is the case with all referrals for intellectual giftedness, assessment instruments should be selected that most accurately measure a student's true ability. However, this is especially true for students who may be significantly impacted by the factors listed above. Determine if the checked items are compelling enough to indicate that this student's abilities may not be accurately measured by traditionally used instruments. Then, record assessment tools and instruments that are appropriate and will be utilized in the assessment of this student.

Assessment Category/Measure:	Assessment Category/Measure:	Assessment Category/Measure:
_____	_____	_____

Appendix: B: Sample Release of Information

Student:_____	School:_____
Date of Birth:_____	Parent/Guardian:_____
Address:_____	Phone: _____

Your child has been referred for an evaluation for special education services. Additional information is needed to assist in determining the need for special education. This information will be confidential and used only by persons directly involved with the student.

For this evaluation, we are requesting information from the indicated contact person/ agency:

Name of contact and/or agency/ practice: _____
Address: _____
Phone Number: _____ Fax number: _____

☐ Medical ☐ Psychological/ Behavioral ☐ Vision/ Hearing ☐ Other:_____

In order to comply with federal law, your written permission is required so that the school system can receive information from the contact/ doctor listed. Please sign on the line below and return to _____ at his school. Thank you for your assistance in gathering this information needed for your child's assessment. If you have any questions regarding this request, please feel free to call (____)_____ for clarification.

☐ I authorize _____ (provider) to disclose protected health information about my child _____ to the _____ school system. The release extends for the period of year or for the following period of time: for _____ to _____.

☐ I do not authorize the above provider to release information about my child to the _____ school system.

_____
Parent/ Guardian Signature

Appendix C: Medical Information Form

☐**AUT** ☐**EMD** ☐**OHI** ☐**OI** ☐**TBI**

PHYSICIAN: *This student is being evaluated by _____ Schools to determine if additional educational services are needed due to a possible medical condition that might significantly impact school performance. We are considering a possible disability as checked above in one of the following disability categories: Autism, Emotional Disturbance, Other Health Impairment, Orthopedic Impairment, or Traumatic Brain Injury. The Disability Eligibility Standards for each can be reviewed on the web at http://www.tn.gov/education/article/special-education-evaluation-eligibility. The information below is a necessary part of the evaluation to help the IEP Team determine whether or not the student requires in-class interventions, direct or related services in Special Education and/or other services in order to progress in the general curriculum.*

Student: _____ **Birth Date:** _____ **School:** _____

Parent/ Guardian: _____ **Address:** _____

Date of Evaluation/Examination: _____

Check below if you have diagnosed the student with any of the following:

☐ **Autism Spectrum Disorder** – Impressions/information that might help rule out or confirm diagnosis

Describe/Specify: _____

☐ **Emotional Disturbance** – Include and physical conditions ruled out as the primary cause of atypical behavior and psychiatric diagnoses

Describe/Specify: _____

☐ **Orthopedic Impairment** – The impairment will primarily impact (please circle): ☐mobility ☐ daily living ☐other:_____

Describe/Specify: _____

☐ **Other Health Impairment**: (check all that apply)☐ADHD-predominately inattentive ☐ ADHD-predominately Impulsive/Hyperactive ☐ ADHD-Combined ☐ Other health condition(s): _____

Special health care procedures, special diet and/or activity restrictions:

_____

☐ **Traumatic Brain Injury --**Specify: _____

The injury causes the following impairment(s) (please check): ☐ physical ☐cognitive ☐psychosocial ☐other:_____

Please Describe:_____

General Health History and Current Functioning: _____

_____

_____

Diagnosis (es)/ etiology: _____

Prognosis: _____

Medications: _____

How does this medical or health condition impact school behavior and learning?

_____

Recommendation: _____

_____

Does the student have any other medical condition or disorder that could be causing the educational and/or behavior difficulties? ☐ Yes ☐ No If yes, explain: _____

_____

Physician's Name Printed:_____

Address:_____

Physician's signature:_____ Date:_____

Appendix D: Sample Developmental History

CONFIDENTIAL PARENT QUESTIONNAIRE

To Be Completed by Parent or Parent Interview

Student Information

Name: _____ Form completed by: _____Date: ___/____/_____
Date of birth: _____ Age: _____

Parents/Legal Guardians *(Check all that apply.)*

With whom does this child live?
❑ Both parents ❑ Mother ❑ Father ❑ Stepmother ❑ Stepfather
❑ Other: _____
Parents'/Legal Guardians' Name(s):
_____
Address: _____
Home phone: _____ Work phone: _____ Cell phone: _____
List names/ages/relationships of people at home: _____
_____
Are there any languages other than English spoken at home? ❑ Yes ❑ No
If yes, what language(s)? _____ By whom? _____ How often? _____

Areas of Concern *(Check all that apply.)*

❑ Behavioral/emotional ❑ Slow development ❑ Listening
❑ Immature language usage ❑ Difficulty understanding language ❑ Health/medical
❑ Slow motor development ❑ Vision problems ❑ Development inconsistent
❑ Speech difficult to understand ❑ Other: _____

Why are you requesting this evaluation? _____
_____
_____
Did anyone suggest that you refer your child? ❑ Yes ❑ No
If yes, name and title: _____
Has a physician, psychologist, speech pathologist or other diagnostic specialist evaluated your child? ❑ Yes ❑ No
Was a diagnosis determined? ❑ Yes ❑ No Please explain:
_____
_____

Preschool History *(Check all that apply.)*

Preschool/daycare programs attended
Name: _____ Address: _____ Dates_____
Name: _____ Address: _____ Dates_____
List any special services that your child has received (e.g., Head Start, TIPS, TEIS, therapy, etc.)
Type of service: _____ Age: _____ Dates: _____ School/agency: _____
Type of service: _____ Age: _____ Dates: _____ School/agency: _____

If your child has attended a preschool or daycare and problems were discussed with you concerning his/her behavior, explain what was tried and if you think it worked.

_____
_____
_____
_____

Developmental History

Pregnancy and Birth

Which pregnancy was this? ❑ 1st ❑ 2nd ❑ 3rd ❑ 4th Other_____ Was it normal? ❑ Yes ❑ No

Explain any complications: _____

Was your child ❑ Full term? ❑ Premature? What was the length of labor?

_____

Was the delivery: *Spontaneous?* ❑ Yes ❑ No *Induced?* ❑ Yes ❑ No *Caesarian?* ❑ Yes❑ No

Birth weight _____ Baby's condition at birth (jaundice, breathing problems, etc.):

_____

_____

Motor Development *(List approximate ages)*

Sat alone _____ Crawled _____Stood alone _____

Walked independently _____ Fed self with a spoon _____

Toilet trained _____ Bladder _____ Bowel _____

Medical History

List any significant past or present health problems (e.g., serious injury, high temperature or fever, any twitching or convulsions, allergies, asthma, frequent ear infections, etc.).

_____

_____

List any medications taken on a regular basis.

_____

_____

Speech and Language *(List approximate ages)*

_____ Spoke first words that you could understand (other than *mama* or *dada*)

_____ Used two-word sentences

_____ Spoke in complete sentences

_____ Does your child communicate primarily using speech?

_____ Does your child communicate primarily using gestures?

_____ Is your child's speech difficult for others to understand?

_____ Does your child have difficulty following directions?

_____ Does your child answer questions appropriately?

Social Development

What opportunities does your child have to play with children of his/her age?

_____

_____

What play activities does your child enjoy? _____

Does s/he play primarily alone? ❑ Yes ❑ No With other children? ❑ Yes ❑ No

Does s/he enjoy "pretend play"? ❑ Yes ❑ No

Do you have concerns about your child's behavior? ❑ Yes ❑ No If yes, please explain.

_____

_____

How do you discipline your child? _____

_____

_____

Thank you for providing the above developmental information on your child. Please return to _____. If you have any questions, please feel free to contact _____ at _____.

Appendix E: Assessment Instruments

This list is may not be comprehensive or include all acceptable available measures. These are the most recent versions of these measures at the time this document was created (Spring 2017). The determination of which measure is used in an evaluation is at the discretion of the assessment specialist.

Cognitive	*Wechsler Preschool and Primary Scale of Intelligence- IV* *Wechsler Intelligence Scale for Children-V* *Wechsler Adult Intelligence Scale-IV* *Wechsler Nonverbal Scale of Ability* *Woodcock Johnson Tests of Cognitive Ability – IV* *Kaufman Assessment Battery for Children-2* *Differential Ability Scales-2* *Stanford Binet Intelligence Scales-V* *Wide-Range Assessment of Memory and Learning-2* *NEPSY-II* *Delis-Kaplan Executive Functioning System* *Behavior Rating Inventory of Executive Function: Second Edition*
Communication/Language	*Preschool Language Scale-5*[JS7] *Clinical Evaluation of Language Fundamentals-Preschool: 2* *Clinical Evaluation of Language Fundamentals-5* *Oral and Written Language Scales-II*
Articulation/Phonology	*Arizona Articulation Proficiency Scale-3* *Clinical Assessment of Articulation and Phonology-2* *Diagnostic Evaluation of Articulation and Phonology* *Fisher Logemann Test of Articulation Competence* *Goldman-Fristoe Test of Articulation-3* *Hodson Assessment of Phonological Patterns-3* *Kaufman Speech Praxis Test for Children*
Behavior/Emotional/Social	*Behavior Assessment System for Children-3* *Conners-3* *Conners Comprehensive Behavior Rating Scales* *Social Skills Improvement Rating Scales*
Adaptive Behavior	*Adaptive Behavior Assessment System-3* *Vineland Adaptive Behavior Scales: Third Edition*

Appendix F: TBI Confidential Parent Interview and Questionnaire

To be completed at Parent Interview

SECTION I

Student Information

Name: _____ Form completed by: _____

Date: _____ Date of birth: _____ Age: _____

Parents/Legal Guardians *(Check all that apply.)*

With whom does this child live?

____ Both parents ____ Mother ____ Father ____ Stepmother ____ Stepfather

____ Other: _____

Parents/Legal Guardian Name(s): _____

Address: _____

Home phone: _____ Work phone: _____ Cell phone: _____

List names/ages/relationships of people at home: _____

_____

_____

Are there any languages other than English spoken at home? ❑ Yes ❑ No

If yes, what language(s)? _____ By whom? _____ How often? _____

Physician Information

Doctor's Name: _____ Date of most recent visit: _____

Address: _____

Have you signed the *Parent Release of Information* (to obtain medical information from the physician)?

❑ Yes ❑ No *(If No, obtain this signature and send Release of Information and Physician's Medical Statement forms to the doctor).*

SECTION II

Trauma History

1. Before the injury, did your child experience any medical or educational difficulties?
   ❑ Yes ❑ No
   If yes, what were they? Medical: _____
   _____

Educational: _____

_____

_____

2. When did the injury occur? _____
3. How old was your child when the injury occurred? _____
4. Describe the circumstances of your child's injury. _____

   _____

   _____
5. Was your child unconscious? ❑ Yes ❑ No
   If so, how long? _____
6. Was your child hospitalized overnight? ❑ Yes ❑ No
   If so, how long? _____
7. Has your child received medical rehabilitation services due to the injury?
   ❑ Yes ❑ No
   If so, how long? _____
8. Does your child continue to receive medical rehabilitation services? ❑ Yes ❑ No
9. Have you received educational recommendations from rehabilitation personnel? ❑ Yes ❑ No
10. Has your child's medical condition improved since the injury? ❑ Yes ❑ No
    In what way(s)? _____

    _____

    _____
11. Is your child still receiving medical care for the injury? ❑ Yes ❑ No
    If yes, describe: _____

    _____

    _____

SECTION III

Areas of Concern

Explain in detail each area of concern:

1. Health or Medical Problems:

   _____

   _____
2. Vision Problems:

   _____

   _____
3. Hearing Problems:

   _____

   _____
4. Speech and/or Language Problems:

   _____

   _____
5. Motor Problems:

_____

_____

6. Behavioral/Emotional Problems:

_____

_____

7. Personality Changes:

_____

_____

_____

8. Educational/Learning Ability Problems:

_____

_____

9. Other:

_____

_____

_____

Appendix G: TBI Educational Records Review and Teacher's Observation

SECTION I

A. Educational History

Review of educational records prior to Injury

1. Attendance: (check one) ❑ Adequate ❑ Problematic
2. Have there been any retentions? ❑ Yes ❑ No If yes, grade(s) retained: _____
3. Behavior: (check one) ❑ Adequate ❑ Problematic
4. Prior to the student's injury, did the student participate in any special programs (i.e., Special Education, 504 Plan, Title I, Title III)? ❑ Yes ❑ No If *yes, specify the services and educational area of intervention targeted*. _____
5. Review of vision and hearing screenings:
   Vision Screening: ❑ Pass ❑ Fail _____ Last date of screening _____ Wears glasses
   Hearing Screening: ❑ Pass ❑ Fail _____ Last date of screening _____ Wears hearing aid(s)
6. Grades

Report student's annual grade averages for the past three years in each of the following areas:

Subject	Year: _____	Year: _____	Year: _____
Reading			
Math			
English/Language Arts			
Science			
Social Studies			

7. Statewide Assessments/End-of-Course Exams
   Report Scores for at least the last three years.

Test Name	Area	Year	Year	Year
	Reading/ Language Arts			
	Math			
	Science			
	Social Studies			
	Writing			

SECTION II

Teacher Providing Observational Information: _____
Date of Completion: _____

B. Current Level of Educational Performance

1. Describe the student's current level of educational performance and attach work samples, when appropriate. _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

TBI Cognitive/Communicative Abilities Checklist

2. Based on observation of this student's current cognitive abilities, please rate the occurrence of the following (0 = Never, 1 = Seldom, 2 = Occasionally, 3 = Frequently).

<u>Does this student exhibit:</u>

_____ memory deficits?
_____ attention problems (including impaired alertness, attention, concentration)?
_____ slowed information processing?
_____ difficulty adapting to change?
_____ difficulty in information processing (following a conversation, completing timed tasks, comprehending complex instructions)?
_____ difficulties in language and communication skills (labeling, verbal expression, comprehending meanings of words, remaining on topic)?
_____ difficulties in general thinking processes (concrete thinking, identifying the main idea, shifting perspective, creative thinking, generating alternative ideas, problem solving)?
_____ difficulties in self-awareness (unrealistic expectations of recovery, limited awareness of danger or risk, poor motivation/resistance to remedial efforts)?
_____ difficulties in language pragmatics (taking turns speaking, using eye contact, listening to others in a conversation situation)?
_____ difficulties in expressive language organization?
_____ (other): _____
_____ (other): _____

TBI Social/Adaptive Abilities Checklist

3. Based on observation of this student's current social adaptive behaviors, please rate the occurrence of the following (0 = Never, 1 = Seldom, 2 = Occasionally, 3 = Frequently).

   Does this student exhibit:

   _____ social disinhibition?
   _____ irritability?
   _____ impaired judgment?
   _____ low frustration tolerance?
   _____ depression/anxiety?
   _____ egocentricity/insensitivity?
   _____ social withdrawal?
   _____ difficulty understanding humor?
   _____ limited insight?
   _____ difficulty changing behavior, even after feedback?
   _____ perseveration?
   _____ impaired attention?
   _____ fatigue?
   _____ aggression?
   _____ confrontational behavior?
   _____ impulsivity?
   _____ emotional lability/mood swings?
   _____ low self-esteem?
   _____ (other): _____
   _____ (other): _____

TBI Physical/Adaptive Behaviors Checklist

4. Based on observation of this student's current physical/adaptive behaviors, please rate the occurrence of the following (0 = Never, 1 = Seldom, 2 = Occasionally, 3 = Frequently).

   Does this student exhibit:

   _____ noticeable loss of fine-motor skills (i.e., handwriting skills)?
   _____ noticeable loss of gross-motor skills or a change in gait?
   _____ difficulty moving through the school environment?
   _____ difficulty taking care of personal needs (eating, toileting, dressing, etc.)?
   _____ difficulty completing written school work?
   _____ difficulty participating in school activities?
   _____ difficulty participating in recreational activities?
   _____ difficulty expressing or acquiring information?
   _____ (other): _____
   _____ (other): _____
   _____ (other): _____
   _____ (other): _____
   _____ (other): _____

Appendix H: Symptoms Checklist of Traumatic Brain Injury

A combination of the following symptoms is typical following a traumatic brain injury. Most individuals will experience several of the symptoms in each of the categories. It is the combination of three to six manifestations in each of the three categories which assists in identifying problems related to concussive injuries. Positive identification of these symptoms should indicate that there is a change from pre-injury function.

Physical	Cognitive	Affective
Somatic __ Nausea __ Vomiting __ Headache __ Sleep disturbances __ Fatigue __ Lethargy *Sensory* __ Dizziness __ Uncoordination __ Balance difficulties __ Changes in smell __ Taste alterations __ Blurred vision __ Double vision __ Tinnitus __ Hypersensitivity to light/noise ("environmental intolerance") __ Hearing problems	*Problems with:* __ Sustained, alternating, and/or divided attention __ Memory for prospective events and new learning __ Speed of information processing __ Capacity for information processing __ Word finding __ Organization of thoughts __ Organization of expression __ Mental flexibility __ Mental control __ Initiation __ Integrative thinking __ Problem solving/judgment *Cognitive changes reflected by reports of:* __ Longer time for task completion __ Slower to respond to questions __ Decreased ability to concentrate __ Feeling overly distracted __ Unable to pay attention in noisy environments __ Forgetting what one was about to say or do __ Becoming tired more easily __ Feeling that hard tasks require extra effort compared to peers __ Unable to do several tasks at once __ Forgetting where items were placed or the location of familiar places __ Forgetting the faces and names of new acquaintances __ Unable to organize oneself as reflected by order of work and personal appearance	*Behavioral* __ Agitation __ Irritability __ Impatience __ Egocentricity __ Social withdrawal __ Apathetic __ Mood swings __ Disinhibition __ Defensiveness __ Confrontational attitude *Emotional* __ Anger __ Depression __ Frustration __ Anxiety __ Irrational fears __ Insecurity __ Guilt __ Feeling helpless

Appendix I: Common Consequences of TBI in Children and Educational Implications[17]

NEUROLOGICAL RECOVERY
Often, children experience prolonged and unpredictable improvement, based on several dynamics of neurological recovery.

Implications:
- Educational systems need to be flexible and programs highly individualized.
- Frequent review and modification of the student's placement and program may be required, which is a practice not consistent with the tradition of annual reviews.

EVOLVING ABILITY PROFILES
In some cases, the student's disability increases over time, possibly related to a type of brain injury that has its first noticeable consequences at a later developmental stage or to the dynamics of the student's adjustment.

Implications:
- Long-term monitoring systems must be implemented, even if the student is not receiving special education services (e.g., using Section 504 of the Rehabilitation Act).
- School staff need to be alert to the possibility that disability may gradually increase over time, so that intervention can be implemented as promptly as possible.

DISABILITY RELATED TO VULNERABLE PARTS OF THE BRAIN
Theoretically, any part of the brain can be involved in TBI. However, closed head injury is frequently associated with damage to the frontal lobes and anterior and medial temporal lobes, with relative sparing of posterior regions.

1. **Challenges related to frontal lobe injury** include reduced awareness of strengths and limitations; disinhibited thinking and behavior; weak initiation; relatively weak control over cognitive processes, such as attention; disorganized thinking and acting; relatively weak planning, problem solving, and strategic behavior; relatively weak learning from consequences; relatively weak effortful learning and retrieval; difficulty holding several thoughts in mind at one time; inflexibility; perseveration; inconsistent behavior and academic performance; concrete thinking and difficulty generalizing; relatively weak social perception and awkward social behavior.

[17] Reprinted/Adapted with permission from "Educating Students with TBI", Journal of Head Trauma Rehabilitation, pages 81, 85, 86; February 2001, Aspen Publishers, Inc.

Implications:

- Impairment may be difficult to assess. Many of these impairments are consistent with good performance on psychological, neuropsychological, and psychoeducational testing. Therefore, necessary services and supports may not appear to be justified based on testing.
- Disability may be misinterpreted (e.g., neurological disinhibition as a psychiatric disorder), with inappropriate services a possible consequence.
- Traditional teaching and behavior management that emphasizes manipulation of consequences may be ineffective.
- Long-term, contextualized coaching in "executive functions" may be necessary.

2. **Needs related to temporal lobe (including limbic system) injury** may include weak learning (new learning) relative to the existing knowledge base acquired before the injury and weak emotional/behavioral regulation.

   Implications:

   - The student may need much more repetition than would seem necessary.
   - The student may need substantial antecedent support for behavioral self-regulation.

3. **Needs related to widespread microscopic damage** include relatively slowed processes.

   Implications:

   - The student may need reduced assignments, evaluation of work based on quality, not quantity, and time accommodations.

4. **Strengths related to relative sparing of posterior parts** of the brain may include retention of much pre-injury knowledge and skill, and basic motor and sensory functions.

   Implications:

   - Assessments must go far beyond testing academic knowledge and skill (acquired before the injury) and sensorimotor functions.

PSYCHOREACTIVE PHENOMENA

The evolution of emotional consequences after a life-altering injury is unpredictable but may include reactions that profoundly influence educational performance. At one stage or another after the injury, some children become depressed and withdrawn, others angry and defiant, and others overly desirous of pleasing, resulting in social vulnerability.

Implications:

- Schools should monitor students' mental health and social relationships after an injury and provide counseling and support when indicated.

Appendix J: Instructional Strategies

TBI Characteristic	Instructional Strategy	Description
Fluctuating attention	Appropriate pacing	Delivering material in small increments and requiring responses at a rate consistent with a student's processing speed increases acquisition of new material.
Memory impairment (associated with need for errorless learning)	High rates of success	Acquisition and retention of new information tends to increase with high rates of success.
• High rates of failure • Organizational impairment • Inefficient learning	Task analysis and advance organizational support	Careful organization of learning tasks, including systematic sequencing of teaching targets and advance organizational support, increases success.
• Inefficient learning • Inconsistency	Sufficient practice and review (including cumulative frequent review)	Acquisition and retention of new information is increased with review.
• Inefficient feedback loops • Implicit learning of errors	Errorless learning combined with corrective feedback when errors do occur	Students with severe memory and learning problems benefit from errorless learning. Errorless learning is a strategy that involves directions followed by a prompt demonstrating the correct answer. When errors occur, learning is enhanced when those errors are followed by nonjudgmental corrective feedback.
Possibility of gaps in the knowledge base	Teaching to mastery	Learning is enhanced with mastery at the acquisition phase.
• Frequent failure of transfer • Concrete thinking and learning	Facilitation of transfer/generalization	Generalizable strategies and general case teaching (wide range of examples and settings) increase generalization.
• Inconsistency • Unpredictable recovery	Ongoing assessment	Adjustment of teaching based on ongoing assessment of students' progress facilitates learning.
• Unusual profiles • Unpredictable recovery	Flexibility in curricular modification	Modifying the curriculum facilitates learning in special populations.

Appendix K: Interventions and Strategies

Integrated approaches to educational, behavioral, and social intervention that have a research base and are applicable to many students with TBI[18]

TBI characteristic	Approach	Description
• New learning needs • Impaired strategic behavior • Impaired organizational functioning	Metacognitive/strategy intervention	Organized curricula designed to facilitate a strategic approach to difficult academic tasks, including organizational strategies; validated for adolescents with and without specific learning disabilities
• Decreased self-awareness • Denial of deficits	Self-awareness/attribution training	Facilitation of students' understanding of their role in learning; validated for students with learning difficulties
• Weak self-regulation related to frontal lobe injury • Disinhibited and potentially aggressive behavior	Cognitive behavior modification	Facilitation of self-control of behavior; validated with adolescents with ADHD and aggressive behavior
• Impulsive behavior • Inefficient learning from consequences • History of failure • Defiant behavior • Initiation impairment • Working memory impairment	Positive, antecedent-focused behavior supports	Approach to behavior management that focuses primarily on the antecedents of behavior (in a broad sense); validated in developmental disabilities and with some TBI subpopulations
• Frequent loss of friends • Social isolation • Weak social skills	Circle of friends	A set of procedures designed to support students' social life and ongoing social development; validated in developmental disabilities and TBI

[18] Reprinted/Adapted with permission from "Educating Students with TBI", Journal of Head Trauma Rehabilitation, pages 81, 85, 86; February 2001, Aspen Publishers, Inc.

Appendix L: Cognition and Phases of Improvement after a TBI

Aspects of Cognition	Early Phase	Middle Phase	Late Phase*
Component processes **Attention:** holding objects, events, words or thoughts in consciousness. *Components*: span, selectivity, filtering, maintaining, shifting, dividing	• Severely decreased arousal or alertness • Minimal selective attention, focusing, shifting • Possibly, attention primarily to internal stimuli	• Attention generally focused on external events • Short attention span • Poor control of attention: highly distractible, inflexible	• Attention span possibly reduced • Relatively weak concentration, selective attention, and fluid attentional shifts • Possibly, weak organizational processes, absence of goals, or both reflected by attending problems
Perception: recognition of features and relationships among features; affected by context (figure-ground) and intensity, duration, significance, and familiarity of stimuli	• Begins to recognize (and perhaps use familiar objects when they are highlighted • May perceive only one feature or aspect of stimulus • Adaptation to continuous stimulation	• Clear recognition of familiar objects and events • Inefficient perception in context • Sharp deterioration with increases in rate, amount, and complexity of stimuli • Difficulty in distinguishing whole from part	• Possibly subtle versions of perceptual problems related to rate, amount, and complexity • Possible specific deficits (e.g., field neglect) • Possibly inefficient shifting of perceptual set • Possibly weak perception of relevant features
Memory and learning: *encoding*: recognition, interpretation, and formulation of information, including language, into an internal code; coding affected by knowledge base, personal interest, and goals *Storage*: retention over time *Retrieval*: transfer from long-term memory to consciousness	• Progression in comprehension from minimal responses to vocal intonation and stress to recognition of simple, context-bound instructions • No evidence of encoding or storage of new information	• Weak encoding due to poor access to knowledge base, poor integration of new with old information, or inefficient attention or perception • Inefficiently encoded information often lost after short delay • Recognition stronger than recall; receptive vocabulary superior to expressive vocabulary • Disorganized search of storage system	• Possible subtle versions of earlier problems, particularly with increases in cognitive stress • Memory problems-any combination of comprehension, encoding, storage, or retrieval deficits • Memory problems- problems recalling information related to personal experience (episodic memory) or abstracted knowledge (semantic memory)
Organizing: analyzing: classifying, integrating, sequencing; identifying relevant features of objects and events; comparing for similarities or differences; integrating into organized descriptions, higher-level categories, and sequenced events; these processes presupposed by higher-level reasoning and efficient learning	• No evidence of these processes	• Weak or bizarre associations • Weak analysis of objects into features • Disorganized sequencing of events • Weak identification of similarities and differences in comparisons and classifications • Can integrate concepts into propositions; difficulty integrating propositions into main ideas • Major difficulty imposing organization on unstructured stimuli	• Possibly subtle versions of earlier problems • Difficulty maintaining goal-directed thinking • Ongoing difficulty discerning main ideas and integrating main ideas into broader themes • Possibly gets lost easily in details • Can impose organization unstructured stimuli with prompting

Aspects of Cognition	Early Phase	Middle Phase	Late Phase*
Reasoning: Considering evidence and drawing inferences and conclusions, involving flexible exploration of possibilities(divergent thinking) and use of past experience *Deductive:* strict logical formal inference *Inductive:* direct inference from experience *Analogical:* indirect inference form experience	• No evidence of these processes	• Minimal inferential thinking; may deal with concrete cause-effect relationships, particularly if overlearned • General inefficiency with abstract ideas and relationships	• Fair to good concrete reasoning in controlled settings; disorganized thinking in stressful or uncontrolled settings • Abstract thinking deficient
Problem solving and judgment: *Problem solving:* occurs when a goal cannot be reached directly; ideally involves goal identification, consideration of relevant information, exploration of possible solutions, and selection of the best Judgment: *decision to act,* based on consideration of relevant factors, including prediction of consequences	• No evidence of these processes	• Inability to see relationships among problems, goals, and relevant information • Inflexibility in generating or evaluating possible solutions; impulsive; trial-and-error approach • Inability to assess a situation and predict consequences • Severely impaired safety and social judgment	• Possibly subtle versions of earlier problems • Impulsive, disorganized problem solving • Inflexible thinking and shallow reasoning • Primary residual deficits possibly poor safety and social judgment manifested in academic and social situations
Component systems Working memory (attentional focus): storage or holding "space" where coding and organizing occur; limited information capacity; *functional* capacity increased by making processes automatic or by "chunking" information	• Severely limited capacity • Progression from single-modality to multi-modality processing of simple stimuli • Attentional space possible exhausted by attention to internal stimuli	• Gradual increase in attention span to near normal, as measured by digit span • Possibly maintained severe restriction of *functional* capacity due to lack of automatic organizing processes • Rapid deterioration of processing with increases in the information load	• Often normal digit span • Possibly, continual reduction of *functional* capacity, due to in-efficient organizing processes, as information load increases, and to generally inefficient executive functions
Long-term memory: Contains knowledge of concepts and words, rules, strategies, and procedures; organizational principles and knowledge frames; goals, experience and self-concept	• Emerging evidence of remote memory; recognition of familiar objects and persons • May assume that other contents are present but inaccessible	• Growing access to pre-trauma contents • Recognition of strong associations (e.g., hammer-nail), basic semantic relations, and common two- or three- event sequences	• Stabilization of recovery of access to pre-traumatically acquired knowledge base • Variable growth of long-term memory, depending on type and severity of residual cognitive deficits

Aspects of Cognition	Early Phase	Middle Phase	Late Phase*
Response system: Controls all output, including speech, facial expression, and fine- and gross-motor activity: includes motor planning	• Severely limited; often perseverative responses	• Speaks or begins augmentative system	• Generally functional communication system-
Executive system ("central processor"): Sets goals; plans and monitors activity; directs processing and operations according to goals current input, and perceptual-affective set	• May use some gestures and speech toward end of this stage, but with motor planning problems or delayed responses • Minimal awareness of self and current condition • No apparent self-direction of behavior or cognitive processes	• Possible motor-planning problems or general slowness • Impulsiveness and possible preservation • Variable motor function depending on site and extent of injury • Growing awareness of self; poor awareness of deficits • Weak metacognitive awareness of self as thinker • Minimal goal setting, self-initiation or self-inhibition, self-monitoring or self-evaluation	• Usually speech • Possible motor-planning problems or slowness • Possible rapid fatigue • Shallow awareness of residual deficits • Middle to severe deficits in executive functions, related in part to anterior frontolimbic damage • Strategy training possible, depending on meta-cognitive level

Functional Integrative Performance

Aspects of Cognition	Early Phase	Middle Phase	Late Phase*
Functional behavior: Performance of real-life tasks and activities (e.g., reading a book or conversing) *Efficiency:* rate of performance and amount accomplished *Level:* developmental or academic level of performance *Scope:* variety of situations in which child can a maintain performance *Manner:* dependence or independence (need for prompts and cues; impulsive or reflective style)	• Cannot adapt to environment; activity level ranges from inactive to hyperactive; activity marginally purposeful (e.g., pulling at tubes, restraints, clothes; attempting to get out of be); gives little or no assistance to daily care • May prefer a limited range of routine task when prompted (e.g., brushing hair) • Profound confusion disorientation to person place, time, and condition • Communication severely limited, inconsistent, and prefunctional; may begin to comprehend simple context-bound instructions Minimal social interaction; little variation in facial expression; reflexively hold or shake hands Agitated behavior at the end of this stage more pronounced in adolescents	• Performs many overlearned routines (e.g., self-care, games) in structures setting with prompts; poor retention of information from day to day; severely impaired learning of new skill • Performs simple sequential task (e.g., dressing) in structured setting of stimuli are controlled for rate, amount, and complexity; rapid deterioration organization of behavior in uncontrolled setting • Continued confusion but growing orientation to person , place, and time in structured setting and with orientation curs; gross awareness of the structure of the day **Communication:** • *Expressive:* Usually verbal and functional (baring motor speech disorder), but often characterized by confabulations, word retrieval problems, excessive and often inappropriate output • *Receptive:* Control of rate amount and complexity of verbal interaction necessary to assure comprehension • Social interruption strained and often unsuccessful, due to disinhibition, inappropriate-ness, impaired social perception • Possibly minimal adaptation to the environment due to impulsiveness, agitation, and inability to set goals	• Performance of pre-traumatically acquired skills related to type and extent of residual deficit and ability to compensate; possible continued sharp deterioration of performance with increasing processing load; reduced rate learning of new skills and strategies • Deficient performance of complex tasks requiring organization, persistence, and self-monitoring; low efficiency, with slow rate and low productivity • Solid orientations to person, place, and time, but possible recurrence or disorientation sudden changes in routine • Communication usually conventional in form, with possible word-finding problems, expressive disorganization, and comprehension limited in efficiency; social use of language possible stained or inappropriate • Social interaction and judgment possible dominant residual systems, related to weak awareness of social conventions and rules, persistent impulsiveness and poorly defined self- concept (with shallow awareness of residual deficits) • Generally goal-directed behavior, but goals possibly unrealistic and social and safety judgment significantly impaired; prompts needed to set goals and subgoals

Appendix M: Resources

Brain Injury Alliance, New Jersey

Nonprofit organization dedicated to raise public awareness by educating others on brain injury, The website provides webinars and resources for families and educators.

- Helping students with brain injuries link: http://bianj.org/helping-students-with-brain-injury/
- Pediatric brain injury webinar: http://bianj.org/pediatric-brain-injury/
- Brain injuries in students webinar: http://bianj.org/brain-injury-students/

Brain Injury Association of Tennessee

Organization focused on the awareness of brain injuries. The website includes resources for families and information about additional organizations across Tennessee.

Brain Injury in Children &Youth: A Manual for Educators

This manual is a collaborative project completed by the Colorado Department of Education, the New Start Project of the Center for Community Partnership at Colorado State University at Fort Collins, and the Children's Hospital of Colorado. While it does include state-specific language, the manual addresses developmental states and the effects of traumatic brain injury; changes in learning and intervention strategies; social and emotional factors; and the continuum of services available within a the school system.

Get Schooled on Concussions

Online resources for educators and parents regarding concussions and returning to learn. The site includes one-page handouts for those working with students with concussions.

Project BRAIN

Tennessee Disability Coalition

Project BRAIN is a grant-funded program of the Tennessee Disability Coalition. BRAIN is an acronym for Brain Resource and Information Network which is for families, educators and healthcare professionals who support the needs of students who have a concussion/ traumatic brain injury and their family. The program provides educational trainings and resources across the community **at no cost**.

One-page flyer: Project BRAIN at a Glance

National Association of State Head Injury Administrators (NASHIA)

NASHIA is a voluntary membership organization established by state government employees to help plan, implement, and administer public programs and services for individuals with brain injury and their families. NASHIA provides education and trainings, including webinars.

Tennessee Sports Concussion Law

In April 2013, Tennessee became the 44th state to pass a sports concussion law designed to reduce youth sports concussions and increase awareness of traumatic brain injury.

Tennessee's Return to Learn/Return to Play

This document is a compilation of concussion management material produced by the States of Colorado and Nebraska and has been adapted with permission for use by the Tennessee Department of Health. It includes information regarding returning to school after a concussion, classroom strategies, school accommodations, when and how to write a 504 plan, and additional resources.

Appendix N: Assessment Documentation Form

Traumatic Brain Injury

Assessment Documentation

School System_____ School_____ Grade_____
Student_____ Date of Birth____/_____/_____ Age____

1. Definition		
▪ there is evidence that the TBI is from an acquired open or closed injury to brain caused by an external physical force	❑ Yes	❑ No
▪ there is documentation the TBI resulted in total or partial functional disability or psychosocial impairment that adversely affects student's educational performance	❑ Yes	❑ No
▪ there is documentation the TBI is not due to brain injuries that were congenital or degenerative, or to brain injuries induced by birth trauma	❑ Yes	❑ No
▪ Student's TBI includes the following		
o an insult to the brain caused by an external force that produced a diminished or altered state of consciousness	❑ Yes	❑ No
o the insult to the brain induced a partial or total functional disability and results in one or more of the following		
• physical impairments	❑ Yes	❑ No
• cognitive impairments	❑ Yes	❑ No
• psychosocial impairments	❑ Yes	❑ No
2. Evaluation Procedures		
▪ appropriate medical statement obtained from a licensed physician	❑ Yes	❑ No
o name of physician_____ o name(s) of other caretakers_____ o medical rehabilitation or hospital_____ o date of trauma_____ date(s) of medical report(s)_____		
▪ parent/caregiver interview	❑ Yes	❑ No
▪ educational history and current levels of educational performance	❑ Yes	❑ No
▪ functional assessment of cognitive/communicative abilities	❑ Yes	❑ No
▪ social adaptive behaviors which relate to TBI	❑ Yes	❑ No
▪ physical adaptive behaviors which relate to TBI	❑ Yes	❑ No
▪ documentation (observation and/or assessment) of how Traumatic Brain Injury adversely impacts educational performance	❑ Yes	❑ No

_____ _____/_____/_____
Signature of Assessment Team Member Role Date

_____		_____/_____/_____
Signature of Assessment Team Member	Role	Date
_____		_____/_____/_____
Signature of Assessment Team Member	Role	Date
_____		_____/_____/_____
Signature of Assessment Team Member	Role	Date
_____		_____/_____/_____
Signature of Assessment Team Member	Role	Date

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